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HEADACHE DUE TO EYE-STRAIN.¹

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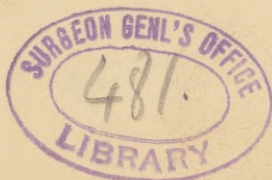
DURING the past few years the subject of reflex headaches, especially those due to eye-strain, has been studied and discussed by many physicians devoting their time to the diseases of the eye and the nervous system.

Headache from eye-strain is an old and valuable discovery, although it received little or no attention until within the past few years, and even now it is by many considered of small importance.

Headache is a prominent symptom in a large percentage of functional disorders. How prone we are to attribute the ache to some disorder of the digestive system, and proceed to prescribe, omitting to inquire whether the headache develops after using the eyes for close work for an hour or two, and whether there are also some aching of the eyes and, at times, dimness of vision.

Among civilized races the percentage of abnormal or defective eyes is estimated to be from 75 per cent. to 90 per cent. Various investigators have furnished statistics, giving the percentage of emmetropic or

¹ Read before the Denver and Arapahoe County Medical Society, May 24, 1892.



normal, and of ametropic or abnormal eyes. In a study of the eyes of 90 medical students, Dr. B. A. Randall,¹ of Philadelphia, found but 12.2 per cent. with emmetropic eyes. Of the 180 eyes 18.8 per cent. were emmetropic. The results of these examinations, made with the eyes under the influence of a mydriatic, are in accord with similar reports made by foreign investigators. Three years later, Dr. Randall,² in his "Analysis of the Statistics of the Refraction of the Human Eye," concluded that approximate emmetropia did not exceed 10 per cent.

In reviewing the writings of others on headache due to eye-strain, it seemed to me, as perhaps it does to others, that there has been a disposition on the part of some of our eye-surgeons to give undue prominence to ocular defects as a cause for headache. After an analysis of 300 cases of error of refraction, however, as they appear on my record-books, as a basis upon which to form an opinion, I am prepared to confirm the views of a number of conscientious observers, that of the entire number with error of refraction, from 55 per cent. to 60 per cent.³ suffer more or less with headache, the exciting cause being eye-strain.⁴

It has been my rule, in examining persons with errors of refraction, to learn of any eye-ache or

¹ Transactions of Pennsylvania State Medical Society, vol. xvii.

² Heidelberg Congress, 1888.

³ "Statistics and Lessons of Fifteen Hundred Cases of Refraction," by George M. Gould, A.M., M.D., in the Journal of the American Medical Association, vol. xviii, p. 432.

⁴ "Analysis of Two Hundred Cases of Errors of Refraction," by H. B. Ellis, B.A., M.D., in the N. Y. Medical Journal, vol. lv, p. 490.

headache, especially frontal headache, that existed before wearing glasses, and after correction, to request the patients to report in a few weeks whether or not they had been relieved of the unpleasant symptoms. In preparing the following table I have excluded, with a few exceptions, cases that failed to report, though I am satisfied that many of them obtained, in the correction of their ocular defects, the desired relief:

Form of error.	Males.	Females.	Number of cases.	Number with eye-ache.	Relieved of eye-ache	Partially relieved of eye-ache.	Number with headache.	Relieved of headache.	Partially relieved of headache.	Failed to report.
H.	17	31	48	41	35	5	26	21	5	1
M.	5	5	10	6	4	2	6	6	..	
H. As.	11	39	50	43	33	6	25	19	6	
H $\circ$ H.As.	16	45	61	45	41	3	29	25	3	2
Mixed As.	9	17	26	23	20	1	18	16	1	3
M. As.	31	30	61	46	41	5	40	34	3	3
M. $\circ$ M.As.	15	29	44	31	28	3	27	21	5	1
Total with As.	...	...	242	188	163	18	139	115	18	9
Total	...	...	300	235	202	25	171	142	23	10
Per cent.	...	...	...	78.3	85.9	...	57	83.	13.4	

A number of reports have been furnished the profession, giving the percentage of cases of headache due to ocular strain, in which statements have been made that correction of the errors gave relief; but few, however, have given the percentage of the cases thus treated that were relieved.

We have learned from the investigations of others

that 90 per cent. of the civilized race have defective eyes. I have shown that 57 per cent. of my cases with errors of refraction suffered with headache; also, that 79.8 per cent. of these were relieved by the correction of ocular defects, while 23, or 13.4 per cent., were partially relieved.

From the foregoing facts it is patent that we have in a very large percentage of our race a fruitful source of reflex headache, and that we have it in our power to render the aid to Nature that will relieve a great deal of suffering, not to mention the improvement in vision to be gained by many in the *proper* adjustment of glasses to their eyes. I say proper adjustment of glasses, for, I am sorry to say, a great deal of imperfect refraction-work is done. Physicians are too apt to refer to an optician the patients whom they suspect need glasses. I am informed that the opticians of this city add to the price of their spectacles their charge for the examination, an examination that, owing to their lack of knowledge of the anatomy and physiology of the eye, cannot be perfect. Then, again, persons under thirty-five or forty years of age cannot be properly corrected unless the accommodation is paralyzed. Of the 300 cases reported in my table, 225 were under thirty-six years of age; in all atropine, hyoscyamine, or homatropine was used. In my table I omitted cases in which only prisms were prescribed, but for quite a number of the cases prisms were combined with the correcting-glass, or the sphericals were decentered.

Of patients with headache due to eye-strain we cannot say with Ambroise Paré, "I tend him, God cures him."

STEELE BLOCK.